

**Notice of Allowability**

Application No.

09/656,713

Applicant(s)

MORIYA ET AL.

Examiner

Art Unit

Manav Seth

2625

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to May 03, 2005.
2. ☒ The allowed claim(s) is/are 1-15, 17-39, 41-43, 45-51, 53-58 and 103-129.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

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***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 03, 2005 has been entered.

***Response to Amendment***

2. Applicant's amendment under 37 C.F.R. 1.116, filed on March 23, 2005 has been considered and entered in full.

3. Applicant's arguments with respect to amended independent claims 1, 32, 103 and 119 on pages 24-33 of the amendment filed March 23, 2005 have been considered and are persuasive and therefore rejections on these respective claims have been withdrawn.

***Allowable Subject Matter***

**Reasons of Allowance:**

3. Claims 1-15, 17-39, 41-43, 45-51, 53-58, 103-118 and 119-129 are allowed.

The following is an examiner's statement of reasons of allowance:

The reasons of allowance should be evident from the applicant's arguments with respect to amended claims 1, 32, 103 and 119 on pages 24-33 of the amendment filed March 23, 2005. The instant invention is directed to an apparatus and method of monitoring particle size of the particles, in real time, generated in the fabrication of a semiconductor

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device, through the use of a laser beam to radiate an area in which the particles exist and a photodetector which receives the laser beam having been scattered by the particles, and outputs image data including brightness of pixels. The apparatus further includes an area detector which determines as a group only pixels that are simultaneously irradiated by said laser beam scattered by one of said particles that are located to each other which have a brightness equal to or greater than a predetermined threshold brightness. The closest prior art (Ito et al., JP 10-232196) discloses particle monitoring device which recites laser beam and photodetector and discloses a data processor 15 (area detector), which determines as a group, pixels which are irradiated by scattered laser beam light 21 during a fixed time span but does not teach determining as a **group only pixels that are simultaneously irradiated** by a laser beam scattered by one of said particles, that are located to each other. The prior art of record does not teach the limitation:

(a) “determining as a group only pixels that are simultaneously irradiated by said laser beam scattered by one of said particles that are located adjacent to each other” as recited in claim 1 and similarly in claims 32, 103 and 119.

Therefore, claims 1, 32, 103 and 119 are allowed. All other claims dependent on claims 1, 32, 103 and 119 are allowed at least by dependency on claims 1, 32, 103 and 119.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

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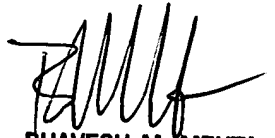
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Manav Seth whose telephone number is (571) 272-7456. The examiner can normally be reached on Monday to Friday from 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta, can be reached on (571) 272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Manav Seth  
Art Unit 2625  
September 13, 2005

  
**BHAVESH M. MEHTA**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2600**